Appl. No. 10/734,938
Amdt. dated April 24, 2006
Reply to Office Action of January 27, 2006

REMARKS/ARGUMENTS

Applicants received the Office Action dated January 27, 2006, in which the Examiner: 1) rejected claims 1, 5, 6, 12, 14-16 and 18 under 35 U.S.C. § 102(b) as being anticipated by Horden (U.S. Pat. No. 5,812,860); 2) rejected claims 2-4, 9-11, 13, 17 and 20 under 35 U.S.C. § 103(a) as obvious over Horden in view of Sadri (U.S. Pat. No. 6,690,652); and 3) rejected claims 7, 8 and 19 under 35 U.S.C. § 103(a) as obvious over Horden in view of Atkinson (U.S. Pat. No. 5,991,883). Based on the arguments below, Applicants believe all claims are in condition for allowance.

Claim 1 requires, among other limitations, that "if an operating voltage for the system is between two thresholds, the power management logic forces the electrical load to operate in a reduced power state." As such, the power state of the load is forced to a reduced power state based on the operating voltage of the system.

Horden does not teach or even suggest this limitation. Horden explains that it "would be desirable to be able to maintain a high peak performance rating while reducing power consumption through use of lower voltages when peak processing is unnecessary. It would, therefore, be desirable to be able to adjust the voltage and frequency based on a current application mix." Col. 1, line 66 – col. 2, line 4. Horden solves this problem by providing "[a] state machine...to coordinate a frequency from a clock signal generator with a voltage from a voltage regulator which is sufficient to allow operation of the processor at that frequency.... [T]he lowest frequency/voltage pair that will allow the processor core to satisfy the need is selected." Horden, Abstract. More specifically, Horden discloses:

> Operating system 4 notifies state machine 15 whether the core should be operating at peak or idle frequencies and voltages. In this embodiment, the operating system 4 need only identify whether core utilization and the corresponding required throughput can be handled at the supported idle frequency or if a higher frequency is required. If

the state machine is in idle state and a higher frequency is required, the O/S asserts a switch state signal along control line 15. The state machine 6 then uses control lines 13 and 14 to drive the voltage regulator 5 and the clock generator 8 into the peak state.

Col. 3, lines 48-58. Thus, Horden teaches adjusting the operating voltage and clock frequency for the system based on the processing needs of the computer.

Claim 1 requires that the power state of the load is forced to a reduced power state based on the operating voltage of the system. By contrast, Horden requires forcing the operating voltage and clock frequency of the system to a particular voltage-level based on processing needs. All other art of record fails to satisfy this deficiency of Horden. For at least this reason, claim 1 and all claims dependent thereon are allowable over the cited art.
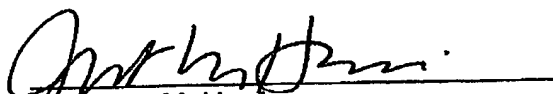
Independent claim 12 requires "power management means...for forcing the system to operate in a reduced power state when an operating voltage is between two voltage levels." Independent claim 16 requires "control logic that...determines whether an operating voltage is between first and second reference voltages...and, if so, causes the system to operate in a non-programmable, reduced performance mode." Independent claim 18 requires comparing an operating voltage to reference voltages and, when the operating voltage is between the references, requiring a system to operate in a less than full performance mode. For the same or similar reasons articulated above, claims 12, 16, and 18 and all claims dependent thereon are also allowable over the art of record.

Applicants respectfully request reconsideration and that a timely Notice of Allowance be issued in this case. It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including

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fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's Deposit Account No. 08-2025.

Respectfully submitted,

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